

IN THE CLAIMS

The status of the claims as presently amended is as follows:

1. *(Original)* A head support device, comprising:
 - a first link and a second link respectively having a first rotational center and a second rotational center, having a rotational center on a diametric line of a recording medium therebetween;
 - a third link and a fourth link which are respectively held so as to be rotatable about rotational centers provided at either side of said first link and rotational centers provided at either side of said second link; and
 - a first suspension and a second suspension which are respectively fixed on said third link and said fourth link and have heads respectively disposed on one side thereof.
2. *(Original)* The head support device of claim 1, wherein said head comprises a slider with a signal conversion element mounted thereon.
3. *(Original)* The head support device of claim 1, wherein a line connecting the respective rotational centers of said first link passes through the first rotational center of said first link, while a line connecting the respective rotational centers of said second link passes through the second rotational center of said second link.
4. *(Original)* The head support device of claim 1, wherein the respective first rotational center and second rotational center of said first link and said second link are located on an extension line of the diametric line of said recording medium.
5. *(Original)* The head support device of claim 1, wherein a first effective link length of said first link and a first effective link length of said second link are nearly identical with each other, and a second effective link length of said first link and a second effective link length of said second link are nearly identical with each other, and further, the distance from the rotational center of said first link to the rotational center of said second link at said third link and the distance from the rotational center of said first link to the rotational center of said second link at said fourth link are respectively nearly equal to the distance from the first rotational center of said first link to the second rotational center of said second link.

6. (*Original*) The head support device of claim 5, wherein the first effective link length of said first link and the second effective link length of said second link are identical with each other.

7. (*Original*) The head support device of claim 1, wherein the third link and the fourth link are in parallel relation with the diametric line of said recording medium that passes through the first rotational center and the second rotational center, and reciprocate in directions opposite to each other.

8. (*Original*) The head support device of claim 1, wherein said first suspension and said second suspension are disposed at same surface side of either topside or underside of said recording medium.

9. (*Original*) The head support device of claim 8, wherein said second suspension is disposed in line-symmetrical relation with said first suspension with respect to the axis of rotational center of said recording medium.

10. (*Original*) The head support device of claim 1, wherein said first suspension and said second suspension are disposed so as to have the topside and underside of said recording medium therebetween.

11. (*Original*) The head support device of claim 7, wherein said first suspension and said second suspension are disposed in point-symmetrical relation with each other with respect to the midpoint in a direction of the rotational axis of said recording medium on the rotational center axis of said recording medium.

12. (*Original*) The head support device of claim 1, wherein track width directions of signal conversion elements respectively mounted on sliders comprising said heads respectively disposed on one end of said first suspension and one end of said second suspension reciprocate on said recording medium while keeping predetermined angles respectively against the diametric line of said recording medium that connects the first rotational center to the second rotational center.

13. (*Original*) The head support device of claim 12, wherein said predetermined angle in the track width direction of at least one out of said signal conversion elements respectively mounted on sliders comprising said heads respectively disposed on one end of said first suspension and one end of said second suspension is 0° against a diametric line of said recording medium that connects the first rotational center to the second rotational center, that is, in parallel relation with the diametric line of said recording medium.

14. (*Original*) The head support device of claim 1, wherein respective center lines in the lengthwise direction of said first suspension and said second suspension are vertical to the diametric line of said recording medium that passes through the first rotational center of said first link and the second rotational center of said second link.

15. (*Original*) The head support device of claim 14, wherein the center of signal conversion element connected to said first suspension passes through two points being at same predetermined distance in a direction vertical to a radial line from the radial line at the first suspension side of said recording medium that connects the first rotational center to the second rotational center and located on the innermost periphery or outermost periphery of recordable zone of said recording medium, and

the center of conversion element connected to said second suspension passes through two points being at same predetermined distance in a direction vertical to a radial line from the radial line at the second suspension side of said recording medium that connects the first rotational center to the second rotational center and located on the innermost periphery or outermost periphery of recordable zone of said recording medium.

16. (*Original*) The head support device of claim 15, wherein the centers of signal conversion elements respectively connected to said first suspension and said second suspension are located on the innermost periphery of the recordable zone, and

in a direction vertical to the diametric line of said recording medium that connects the first rotational center to the second rotational center, distance d from the centers of the respective signal conversion elements to the diametric line of said recording medium that connects the first rotational center to the second rotational center is in a range as follows:

$$0 < d < d_0$$

where the distance between the center of said signal conversion element and the center of said slider is d_0 .

17. (*Original*) The head support device of claim 15, wherein respectively predetermined distances in a direction vertical to the radial line at said first suspension and said second suspension are nearly identical with each other.

18. (*Original*) The head support device of claim 17, wherein at least one of the centers of sliders mounted with signal conversion elements comprising said heads respectively connected to said first suspension and said second suspension is located on the radial line of said recording medium that connects the first rotational center to the second rotational center.

19. (*Original*) The head support device of claim 17, wherein the centers of signal conversion elements respectively connected to said first suspension and said second suspension are located on the innermost periphery of the recordable zone, and

in a direction vertical to the diametric line of said recording medium that connects the first rotational center to the second rotational center, distance d from the centers of the respective signal conversion elements to the diametric line of said recording medium that connects the first rotational center to the second rotational center is in a range as follows:

$$0 < d < d_0$$

where the distance between the center of said signal conversion element and the center of said slider is d_0 .

20. (*Original*) The head support device of claim 14, wherein the center of signal conversion element connected to said first suspension passes through two intersections of a radial line of said recording medium at the first suspension side on the diametric line of said recording medium with the innermost periphery or the outermost periphery of the recordable zone of said recording medium, and

the center of signal conversion element connected to said second suspension passes through two intersections of a radial line of said recording medium at the second suspension side with the innermost periphery or the outermost periphery of the recordable zone of said recording medium.

21. (*Original*) The head support device of claim 20, wherein the centers of signal conversion elements respectively connected to said first suspension and said second suspension are located on the innermost periphery of the recordable zone, and the center of slider mounted with signal conversion element comprising said head is located on the radial line of said recording medium that connects the first rotational center to the second rotational center.

22. (*Original*) The head support device of claim 20, wherein the centers of signal conversion elements respectively connected to said first suspension and said second suspension are located on the innermost periphery of the recordable zone, and

in a direction vertical to the diametric line of said recording medium that connects the first rotational center to the second rotational center, distance d from the centers of the respective signal conversion elements to the diametric line of said recording medium that connects the first rotational center to the second rotational center is in a range as follows:

$$0 < d < d_0$$

where the distance between the center of said signal conversion element and the center of said slider is d_0 .

23. (*Currently Amended*) ~~[[A]] The head support device[[],]~~ of claim 1, further comprising:

~~a first link and a second link respectively having a first rotational center and a second rotational center with a diametric rotational center of a recording medium positioned therebetween;~~

~~a third link and a fourth link which are respectively held so as to be rotatable about rotational centers provided at either side of said first link and rotational centers provided at either side of said second link;~~

~~a first suspension and a third suspension which are fixed on said third link and respectively provided with a head[[s]] at one side thereof; and~~

~~a second suspension and a fourth suspension which are fixed on said fourth link and respectively provided with a head[[s]] at either side thereof.~~

24. (*Original*) The head support device of claim 23, wherein said head comprises a slider mounted with a signal conversion element.

25. (*Original*) The head support device of claim 23, wherein a line connecting respective rotational centers of said first link passes through the first rotational center of said first link, while a line connecting respective rotational centers of said second link passes through the second rotational center of said second link.

26. (*Original*) The head support device of claim 23, wherein the respective first rotational center and second rotational center of said first link and said second link are located on a diametric line of said recording medium.

27. (*Original*) The head support device of claim 23, wherein the first effective link length of said first link and the first effective link length of said second link are nearly identical with each other, and

the second effective link length of said first link and the second effective link length of said second link are nearly identical with each other,

further, distance from a rotational center against said first link to a rotational center against said second link at said third link and distance from a rotational center against said first link to a rotational center against said second link at said fourth link are respectively nearly identical with distance from the first rotational center of said first link to the second rotational center of said second link.

28. (*Original*) The head support device of claim 27, wherein the first effective link length and the second effective link length of said first link are identical with each other.

29. (*Original*) The head support device of claim 23, wherein said third link and said fourth link are parallel to a diametric line of said recording medium that passes through the first rotational center and the second rotational center and reciprocate in directions opposite to each other.

30. (*Original*) The head support device of claim 23, wherein respective center lines in lengthwise directions of said first suspension and said third suspension fixed on said third link and of said second suspension and said fourth suspension fixed on said fourth link are vertical to the diametric line of said recording medium that passes through the first rotational center of said first link and the second rotational center of said second link.

31. (*Original*) The head support device of claim 23, wherein the track width direction of a signal conversion element mounted on a slider comprising the head fitted to each end of said first suspension, said second suspension, said third suspension, and said fourth suspension reciprocates on said recording medium while keeping a predetermined angle against the diametric line of said recording medium that connects the first rotational center to the second rotational center.

32. (*Original*) The head support device of claim 31, wherein at one signal conversion element at least out of signal conversion elements mounted on sliders respectively fitted to the respective ends of said first suspension, said second suspension, said third suspension, and said fourth suspension, the predetermined angle in track width direction of the signal conversion element against the diametric line of said recording medium that connects the first rotational center to the second rotational center is 0°, that is, parallel to the diametric line of said recording medium.

33. (*Original*) The head support device of claim 23, wherein the center of each signal conversion element connected to said first suspension, said second suspension, said third suspension, and said fourth suspension passes through two points on the innermost periphery or outermost periphery of recordable zone of said recording medium which are respectively at predetermined distances in a direction vertical to the diametric line from the diametric line of said recording medium that connects the first rotational center to the second rotational center.

34. (*Original*) The head support device of claim 33, wherein the predetermined distances in a direction vertical to the diametric line of said recording medium at said first suspension and said second suspension are nearly identical with each other, and the predetermined distances in a direction vertical to the diametric line of said recording medium at said third suspension and said fourth suspension are nearly identical with each other.

35. (*Original*) The head support device of claim 34, wherein the center of signal conversion element connected to at least one suspension out of said first suspension, said second suspension, said third suspension, and said fourth suspension is located on the innermost periphery of recordable zone, and the center of slider mounted with signal conversion element comprising said head is located on the diametric line of said recording medium that connects the first rotational center to the second rotational center.

36. (*Original*) The head support device of claim 34, wherein the center of signal conversion element connected to at least one suspension out of said first suspension, said second suspension, said third suspension, and said fourth suspension is located on the innermost periphery of the recordable zone, and

in a direction vertical to the diametric line of said recording medium that connects the first rotational center to the second rotational center, distance d from the center of said signal conversion element to the diametric line of said recording medium that connects the first rotational center to the second rotational center is in a range as follows:

$$0 < d < d_0$$

where the distance between the center of said signal conversion element and the center of said slider is d_0 .

37. (*Original*) The head support device of claim 23, wherein said first suspension and said third suspension fixed on said third link are arranged in such manner as to sandwich the topside and underside of said recording medium therebetween, while said second suspension and said fourth suspension fixed on said fourth link are arranged in such manner as to sandwich the topside and underside of said recording medium therebetween.

38. (*Original*) The head support device of claim 37, wherein the center of signal conversion element connected to said second suspension is disposed in line-symmetrical relation with the center of signal conversion element connected to said first suspension with respect to the axis of rotational center of said recording medium, and in a state such that a line that passes through the first rotational center at said first link and connects respective rotational centers against said third link and said fourth link is kept at a predetermined angle against the diametric line of said recording medium that connects the first rotational center to the second rotational center,

regarding at least one positional relation out of the positional relations of centers of signal conversion elements respectively connected to said first suspension and said third suspension fixed on said third link or the positional relations of centers of signal conversion elements respectively connected to said second suspension and said fourth suspension fixed on said fourth link, the center passes through a midpoint in a direction of rotational axis on the axis of rotational center of said recording medium, and is in line-symmetrical relation with

respect to each line vertical to the axis of rotational center and the diametric line of said recording medium that connects the first rotational center to the second rotational center.

39. (*Original*) The head support device of claim 38, wherein the predetermined angle of the line connecting the rotational centers at said first link against the diametric line of said recording medium that connects the first rotational center to the second rotational center is nearly 90°.

40. (*Original*) The head support device of claim 23, wherein said first suspension and said third suspension fixed on said third link are arranged at one same surface side of the topside and underside of said recording medium, while said second suspension and said fourth suspension fixed on said fourth link are arranged at the other same surface side of the topside and underside of said recording medium.

41. (*Original*) The head support device of claim 40, wherein the center of signal conversion element connected to said second suspension is disposed in point-symmetrical relation with the center of signal conversion element connected to said first suspension with respect to a midpoint in the rotational axis direction of said recording medium on the axis of rotational center of said recording medium, and in a state such that a line that passes through the first rotational center at said first link and connects respective rotational centers against said third link and said fourth link is kept at a predetermined angle against the diametric line of said recording medium that connects the first rotational center to the second rotational center,

regarding at least one of the positional relations out of the positional relations of centers of signal conversion elements respectively connected to said first suspension and said third suspension fixed on said third link or the positional relations of centers of signal conversion elements respectively connected to said second suspension and said fourth suspension fixed on said fourth link, the centers are in face-symmetrical relation with respect to a plane vertical to the diametric line of said recording medium that connects the first rotational center to the second rotational center including the axis of rotational center of said recording medium.

42. (*Original*) The head support device of claim 41, wherein the predetermined angle of the line connecting the rotational centers at said first link against the diametric line of said recording medium that connects the first rotational center to the second rotational center is nearly 90°.

43. (*Currently Amended*) [[A]] The head support device, comprising:

— a first link and a second link respectively having a first rotational center and a second rotational center at either side thereof with a rotational center of a recording medium positioned therebetween;

— a third link and a fourth link held so as to be rotatable about rotational centers respectively provided at either side of said first link and said second link; and

— a first suspension and a second suspension respectively fixed on said third link and said fourth link, and respectively provided with heads at one side thereof,

— of claim 1, wherein the respective heads of said first suspension and said second suspension are arranged on either topside or underside of said recording medium, and one head of said first suspension or said second suspension corresponds to a zone at the innermost periphery side of recordable zone divided into two zones by a separation periphery, while the other head corresponds to a zone at the outermost periphery side.

44. (*Original*) The head support device of claim 43, wherein said head comprises a signal conversion element mounted on a slider.

45. (*Original*) The head support device of claim 43, wherein a line connecting the respective rotational centers provided at either end of said first link passes through the first rotational center of said first link, and a line connecting the respective rotational centers provided at either end of said second link passes through the second rotational center of said second link.

46. (*Original*) The head support device of claim 43, wherein the first rotational center of said first link and the second rotational center of said second link are located on a diametric line of said recording medium.

47. (*Original*) The head support device of claim 43, wherein the first effective link length of said first link and the first effective link length of said second link are nearly identical with each other, and

the second effective link length of said first link and the second effective link length of said second link are nearly identical with each other,

further, distance from a rotational center against said first link to a rotational center against said second link at said third link and distance from a rotational center against said first

link to a rotational center against said second link at said fourth link are respectively nearly identical with distance from the first rotational center of said first link to the second rotational center of said second link.

48. (*Original*) The head support device of claim 47, wherein the first effective link length and the second effective link length of said first link are nearly identical with each other.

49. (*Original*) The head support device of claim 43, wherein said third link and said fourth link are parallel to the diametric line of said recording medium that passes through the first rotational center and the second rotational center, and reciprocate in directions opposite to each other.

50. (*Original*) The head support device of claim 44, wherein a line corresponding to the track width direction of the signal conversion element mounted on the slider fitted to each of said first suspension and said second suspension reciprocates on said recording medium while keeping a predetermined angle against the diametric line of said recording medium that connects the first rotational center to the second rotational center.

51. (*Original*) The head support device of claim 50, wherein said predetermined angle in the track width direction of at least one out of said signal conversion elements respectively mounted on the sliders respectively fitted to said first suspension and said second suspension is 0° against the diametric line of said recording medium that connects the first rotational center to the second rotational center, that is, in parallel relation with the diametric line of said recording medium.

52. (*Original*) The head support device of claim 43, wherein respective center lines in the lengthwise direction of said first suspension and said second suspension are vertical to the diametric line of said recording medium that passes through the first rotational center of said first link and the second rotational center of said second link.

53. (*Original*) The head support device of claim 44, wherein one center of signal conversion element connected to said first suspension or said second suspension passes through two points having same predetermined distance in a direction vertical to the diametric line from the diametric line of said recording medium that connects the first rotational center to the second

rotational center and located on the innermost periphery and the separation periphery of the recordable zone of said recording medium at one side against the rotational center of said recording medium, and

the other center of the conversion element passes through two points having same predetermined distance in the another direction vertical to the diametric line from the diametric line and located on the separation periphery and the outermost periphery of the recordable zone of said recording medium at the other side against the rotational center of said recording medium.

54. (*Original*) The head support device of claim 53, wherein when the center of signal conversion element at the innermost periphery side of the recordable zone out of the signal conversion elements connected to said first suspension or said second suspension is located on the innermost periphery of the recordable zone, the center of the slider mounted with the signal conversion element is located on the diametric line of said recording medium that connects the first rotational center to the second rotational center.

55. (*Original*) The head support device of claim 53, wherein in a direction vertical to the diametric line of said recording medium that connects the first rotational center to the second rotational center, distance d from the center of the signal conversion element at the innermost periphery side of the recordable zone to the diametric line of said recording medium that connects the first rotational center to the second rotational center is in a range as follows:

$$0 < d < d_0$$

where the distance between the center of said signal conversion element and the center of said slider is d_0 .

56. (*Original*) The head support device of claim 44, wherein the center of one signal conversion element of the signal conversion elements connected to said first suspension or said second suspension passes through two intersections of the diametric line of said recording medium with the innermost periphery and the separation periphery of the recordable zone of said recording medium at one side against the rotational center of said recording medium, and

the center of the other signal conversion element passes through two intersections of the diametric line of said recording medium with the separation periphery and the outermost

periphery of the recordable zone of said recording medium at the other side against the rotational center of said recording medium.

57. (*Original*) The head support device of claim 56, wherein when the center of the signal conversion element at the innermost periphery side of the recordable zone is located on the innermost periphery of the recordable zone, the center of the slider mounted with the signal conversion element is located on the diametric line of said recording medium that connects the first rotational center to the second rotational center.

58. (*Original*) The head support device of claim 56, wherein in a direction vertical to the diametric line of said recording medium that connects the first rotational center to the second rotational center, the center of the signal conversion element at the innermost periphery side of the recordable zone is positioned between the diametric line of the recordable zone of said recording medium that connects the first rotational center to the second rotational center and the distance from the center of the signal conversion element to the center of the slider.

59-160. (*Canceled*)

161. (*Currently Amended*) A disk drive, comprising:

a recording medium rotated by a spindle motor, and
a head support device opposing to said recording medium and having a signal conversion element for recording signals on said recording medium or reproducing signals from said recording medium,

wherein said head support device has a configuration of any one of claims 1-58.

162. (*Canceled*)